

Claims

1. A computer-implemented method for adding a new feature to an application generated by an automatic code generator comprising:
 - capturing a set of knowledge and rules that define an application;
 - generating code for the application by providing a first automatic code generator with the set of knowledge and rules;
 - capturing a set of knowledge and rules that define a new feature to be added to the application;
 - generating code for a second automatic code generator that supports the new feature by providing the first automatic code generator with the set of knowledge and rules defining the new feature as well as a set of knowledge and rules defining the first automatic code generator; and
 - regenerating the code for the application such that the application includes the new feature by providing the second automatic code generator with the set of knowledge and rules for generating the application as well as a set of knowledge and rules for using the new feature.
2. The method of claim 1, wherein the application and the code generators employ substantially identical user interfaces to capture knowledge and rules.
3. The method of claim 2, wherein the knowledge and rules captured by both the application and the code generator are of substantially identical types.

4. The method of claim 1, wherein the application and the code generators employ substantially identical platforms, languages, and architectures.

5. The method of claim 1, wherein the application and the code generators employ substantially identical data stores and data relationships.

6. The method of claim 1, wherein the application and the code generators employ substantially identical user interfaces, platforms, languages, and architectures, data stores, and data relationships.

7. The method of claim 1, wherein the first code generator is a subsequent iteration of an earlier code generator automatically generated by the earlier code generator.

8. The method of claim 1, further comprising:
regenerating code for a second application such that the second application includes the new feature by providing the second automatic code generator with a set of knowledge and rules for generating the second application as well as a set of knowledge and rules for using the new feature.

9. The method of claim 1, wherein the rules comprise at least one of:
validation rules governing input data;
calculation rules for performing mathematical calculations on input data;

inference rules for modifying or adding other data based on input data; and
action rules for triggering actions based on input data.

10. The method of claim 1, further comprising storing captured rules and knowledge within a relational database.

11. A self-generating automatic code generation system comprising:

a user interface for capturing a set of knowledge and rules that define an application;

a first automatic code generator for generating code for the application using the set of knowledge and rules;

a user-interface for capturing a set of knowledge and rules that define a new feature to be added to the application; and

a second automatic code generator supporting the new feature that was automatically generated by the first automatic code generator using the set of knowledge and rules defining the new feature as well as a set of knowledge and rules defining the first automatic code generator,

wherein the second automatic code generator is to regenerate the code for the application such that the application includes the new feature using the set of knowledge and rules for generating the application as well as a set of knowledge and rules for using the new feature.

12. The system of claim 11, wherein the application and the code generators employ substantially identical user interfaces to capture knowledge and rules.

13. The system of claim 12, wherein the knowledge and rules captured by both the application and the code generator are of substantially identical types.

14. The system of claim 11, wherein the application and the code generators employ substantially identical platforms, languages, and architectures.

15. The system of claim 11, wherein the application and the code generators employ substantially identical data stores and data relationships.

16. The system of claim 11, wherein the application and the code generators employ substantially identical user interfaces, platforms, languages, and architectures, data stores, and data relationships.

17. The system of claim 11, wherein the first code generator is a subsequent iteration of an earlier code generator automatically generated by the earlier code generator.

18. The system of claim 11, wherein the second code generator is to regenerate code for a second application such that the second application includes the new feature

using a set of knowledge and rules for generating the second application as well as a set of knowledge and rules for using the new feature.

19. The system of claim 11, wherein the rules comprise at least one of:
 - validation rules governing input data;
 - calculation rules for performing mathematical calculations on input data;
 - inference rules for modifying or adding other data based on input data; and
 - action rules for triggering actions based on input data.
20. The system of claim 11, further comprising a relational database for storing captured rules and knowledge.
21. A computer program product comprising program code for performing a method for adding a new feature to an application generated by an automatic code generator comprising:
 - program code for capturing a set of knowledge and rules that define an application;
 - program code for generating code for the application by providing a first automatic code generator with the set of knowledge and rules;
 - program code for capturing a set of knowledge and rules that define a new feature to be added to the application;
 - program code for generating code for a second automatic code generator that supports the new feature by providing the first automatic code generator with the set of

knowledge and rules defining the new feature as well as a set of knowledge and rules defining the first automatic code generator; and

program code for regenerating the code for the application such that the application includes the new feature by providing the second automatic code generator with the set of knowledge and rules for generating the application as well as a set of knowledge and rules for using the new feature.

22. The computer program product of claim 21, wherein the application and the code generators employ substantially identical user interfaces to capture knowledge and rules.

23. The computer program product of claim 22, wherein the knowledge and rules captured by both the application and the code generator are of substantially identical types.

24. The computer program product of claim 21, wherein the application and the code generators employ substantially identical platforms, languages, and architectures.

25. The computer program product of claim 21, wherein the application and the code generators employ substantially identical data stores and data relationships.

26. The computer program product of claim 21, wherein the application and the code generators employ substantially identical user interfaces, platforms, languages, and architectures, data stores, and data relationships.

27. The computer program product of claim 21, wherein the first code generator is a subsequent iteration of an earlier code generator automatically generated by the earlier code generator.

28. The computer program product of claim 21, further comprising:
program code for regenerating code for a second application such that the second application includes the new feature by providing the second automatic code generator with a set of knowledge and rules for generating the second application as well as a set of knowledge and rules for using the new feature.

29. The computer program product of claim 21, wherein the rules comprise at least one of:

validation rules governing input data;
calculation rules for performing mathematical calculations on input data;
inference rules for modifying or adding other data based on input data; and
action rules for triggering actions based on input data.

30. The computer program product of claim 21, further comprising program code for storing captured rules and knowledge within a relational database.

31. A self-generating automatic code generator comprising:

- a front-end user interface to capture dynamic knowledge and rules;
- a dynamic rule layer to apply the dynamic rules to the dynamic knowledge and rules;
- a data store for storing the dynamic knowledge and rules after application of the dynamic rules by the dynamic rule layer;
- a code generation rule layer to apply static knowledge and rules to the stored dynamic knowledge; and
- a back-end user interface to generate new computer code for the front-end user interface based on the static knowledge and static rules applied to the stored dynamic knowledge.

32. A method for creating a self-generating automatic code generator comprising:

- manually programming dynamic knowledge for a user first interface for capturing dynamic knowledge;
- manually programming static knowledge and rules to be applied to the manually-programmed dynamic knowledge;
- generating code for the first user interface using the manually-programmed static knowledge and static rules applied to the manually-programmed dynamic knowledge;
- using the first user interface to capture dynamic knowledge for a second user interface for capturing dynamic rules;
- manually programming static knowledge and rules to be applied to the manually-programmed dynamic knowledge for the second user interface;

generating code for the second user interface using the manually-programmed static knowledge and static rules for the second user interface applied to the manually-programmed dynamic knowledge for the second user interface;

using the first and second user interfaces to capture dynamic knowledge and rules, respectively, for a third user interface for an automatic code generator; and

automatically generating code for the automatic code generator using the captured dynamic knowledge and rules.